

## INTERNATIONAL SEARCH REPORT

 International application No.  
 PCT/KR2004/000680
**A. CLASSIFICATION OF SUBJECT MATTER**

IPC7 C12N 9/14, C12N 15/52, A23K 1/165

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC7 C12N 9/14, C12N 15/52, A23K 1/165, C12N 1/20

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Patents and applications for inventions since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

NCBI PubMed, Esp@cenet, CA "Phytase, Citrobacter, Phytic acid"

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	LEI X.G. & STAHL C.H., 'Biotechnological development of effective phytases for mineral nutrition and environmental protection', In: Appl. Microbiol. Biotechnol., 2001, Vol. 57, pp. 474-481. See the whole document	1 2-9
A	EP 0,779,037 A1 (GIST-BROCADES N.V.) 18 JUNE 1997 See the whole document	1-9
A	US 6,235,517 B1 (FOOD INDUSTRY R. & D. INST.) 22 MAY 2001 See the whole document	1-9
P, X	KIM H.W. et al., 'Isolation and characterization of a phytase with improved properties from Citrobacter braakii', In: Biotechnol. Lett., August 2003, Vol. 25, pp. 1231-1234. See the whole document	1-9

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

13 JULY 2004 (13.07.2004)

Date of mailing of the international search report

15 JULY 2004 (15.07.2004)

Name and mailing address of the ISA/KR


 Korean Intellectual Property Office  
 920 Dunsan-dong, Seo-gu, Daejeon 302-701,  
 Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

CHO, YOUNG GYUN

Telephone No. 82-42-481-8132



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## Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of Item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:

a. type of material



a sequence listing



table(s) related to the sequence listing

b. format of material



in written format



in computer readable form

c. time of filing/furnishing



contained in the international application as filed



filed together with the international application in computer readable form



furnished subsequently to this Authority for the purposes of search

2. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

3. Additional comments:

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

PCT/KR2004/000680

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0779037 A1	18.06.1997	WO 1991/005053 A1 US 5863533 A JP 3105920 B2 KR 159782 B1	18.04.1991 26.01.1999 06.11.2000 16.11.1998
US 6235517 B1	22.05.2001	TW 457298 B	01.10.2001